UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/593,588	09/21/2006	Parminder Singh Mudhar	36-2021	1503

23117 7590 12/10/2008

NIXON & VANDERHYE, PC
901 NORTH GLEBE ROAD, 11TH FLOOR
ARLINGTON, VA 22203

EXAMINER	
WANG-HURST, KATHY W	

ART UNIT	PAPER NUMBER
2617	

MAIL DATE	DELIVERY MODE
12/10/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/593,588	MUDHAR, PARMINDER SINGH	
	Examiner	Art Unit	
	KATHY WANG-HURST	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Applicant's amendment filed on 9/26/2008 has been entered. Claims 1-3, 6-7, 13 and 14 have been amended. Claims 1-16 are still pending in this application.

Response to Arguments

2. Applicant's arguments filed have been fully considered but they are not persuasive.

The applicants argued features wherein an authorizing data transfer to or from a mobile node that is connected to a point of a network is accomplished by receiving a digital certificate from the connected point which contains geographical information, comparing the geographical information from the digital certificate, authorizing the data transfer according to the results of the comparison, read upon Stewart in view of Sharma as follows.

Stewart is discussing allowing access to network for data transfer using a digital certificate between a mobile node and a network node. Sharma discusses authorizing data transfer in the context of a mobile node roaming outside the home network wherein a forwarding node is involved in authorizing data transfer before forwarding the data to the mobile node. Thus Stewart in view of Sharma shows the limitation of "authorizing data transfer to or from a mobile node temporarily connected to an attachment point of a network, the attachment point having a forwarding node associated therewith for forwarding messages to or from the mobile node". Stewart discusses receiving a digital certificate that includes an information body and a security key to ensure the contents of

the certificate are valid, the information body including geographical location of the user, and geographic location information being provided to the network through the AP. Thus Stewart shows limitation of "receiving a digital certificate, which certificate includes a message body and a digital signature for verifying the content of the message body, the message body having geographical information therein, which geographical information is derived from a physical location". Stewart discusses comparing the information from the digital certificate which includes user geographical information against a database. Thus Stewart shows limitation of "performing a comparison between the geographical information of the certificate and other information". Stewart discusses authorizing access to the network after making comparison and the comparison meeting certain conditions. Thus Stewart shows limitation of "making an authorization decision for data transfer to or from the mobile node in dependence on the result of the comparison". Therefore, the argued limitations read upon the cited references or are written broad such that they read upon the cited references, as follows.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Stewart**, herein referred as Stewart in view of **Sharma et al. (US 2003/0039234)**, herein referred as Sharma, cited in applicant's IDS.

Regarding claim 1, Stewart discloses a method of authorizing data transfer to or from a mobile node temporarily connected to an attachment point of a network **(see Abstract and col. 14 lines 15-35)**, the method including the steps of:

(a) receiving a digital certificate **(see Fig. 4 item 216 receiving certificate)**, which certificate includes a message body and a digital signature for verifying the content of the message body **(Abstract and col. 1 lines 40-67)**, the message body having geographical information therein **(Abstract and col. 3 lines 33-44)**, which geographical information is derived from a physical location **(col. 3 lines 33-44)**;

(b) performing a comparison between the geographical information of the certificate and other information **(col. 14 lines 29-33 comparing; col. 13 lines 33-44 using geographical information for authentication and security)**; and,

(c) making an authorization decision for data transfer to or from the mobile node in dependence on the result of the comparison **(col. 15 lines 45-46 and Fig. 4 item 224, 226 and 236)**.

Stewart fails to disclose the digital certificate is from the forwarding node. Sharma teaches a forwarding node in an IP network **([0012] home agent intercepts packets and forward them to MN, therefore home agent is acting as a forwarding node)** and an authentication process between the forwarding node and mobile node **([0013]-[0015] MN and home agent conduct internet security check)**. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify Stewart's digital certificate retrieval system by Sharma's

authentication system in order to extend the security function to an IP network when mobile unit roams to other networks and to allow forwarding node and mobile node to verify the data was not modified in transit, thus providing an improved security verification process **([0015])**.

Regarding claim 2, Stewart discloses a method as claimed in claim 1, wherein the digital certificate is suitable for use in a public key encryption system **(col. 1 lines 41-42)**.

Regarding claim 3, Stewart discloses a method as claimed in claim 2, wherein the certificate is having a public key and a private key associated therewith, and wherein the signature is a function, at least in part, of the private key of the certificate node **(col. 1 lines 41-55)**. Stewart fails to disclose that the certificate is generated at a certificating node. Sharma teaches an authentication mechanism generating keys from the mobile node and send the keys to a packet gateway node **([0008])**. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify Stewart's digital certificate retrieval system by Sharma's authentication system in order to further improve the security of the network through mutual authentication **([0008])** instead of one-way authentication.

Regarding claim 4, Stewart discloses a method as claimed in claim 2, including the step of verifying the authenticity of the digital certificate **(col. 1 lines 41-42)**. Stewart fails to

disclose the step of verifying the authenticity by performing a computation on at least part of certificate, the computation involving the public key associated with the certificate node. Sharma teaches the step of authentication involving mathematical algorithms and keys to that authentication algorithm **([0014] and [0016])**. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to incorporate the authentication step taught by Sharma into the verifying step disclosed by Stewart in order to further improve the security of the network communication through a logically implemented authentication protocol **([0015])**.

Regarding claim 5, Stewart discloses a method as claimed in claim 1, wherein the mobile node has a certificate associated therewith, which certificate includes geographical information, the method including the further step of receiving the certificate from the mobile node, and using the geographical information from the certificate of the mobile node to make the authorisation decision **(col. 2 lines 53-56)**.

Regarding claim 6, Stewart discloses a method as claimed in any of the preceding claims, wherein a registration procedure is performed to allow data transfer between the forwarding node and the mobile node, and wherein the registration procedure includes the steps of:
receiving, at the forwarding node, a certificate with geographical information therein **(Fig. 4 item 216)**; and, comparing the received geographical information with a further item of geographical information **(Fig. 4 items 202, 204, 206, 208, and 216)**.

Regarding claim 7, Stewart discloses a method as claimed in claim 1, wherein the geographical information in the certificate associated with the forwarding node is derived from the physical location of the forwarding node **(col. 2 lines 54-56)**.

Regarding claim 8, Stewart discloses a method as claimed in claim 1, wherein there is a mobile node **(Abstract)**, but fails to disclose that the mobile node has a temporary address and a permanent address associated therewith. Sharma teaches a method and system for secure network roaming in which there is a temporary address **([0012])** and that permanent address **([0011])** such that the mobile device can retrieve messages through a temporary care-of address when it is away from the permanent address **([0012])**. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to incorporate the temporary and permanent address in order to provide a better way to accommodate device mobility within the network **([0011])**.

Regarding claim 9, Stewart discloses a method as claimed in claim 8, wherein the temporary address of the mobile node is indicative of the topological position of the current point of attachment of the mobile node **(col. 10 lines 19-29 geographic information pinpointing the location of each access point)**.

Regarding claim 10, Stewart discloses a method as claimed in claim 8, but fails to disclose the steps. Sharma teaches the steps of:
(i) intercepting packets addressed to the permanent address of the mobile node **([0012])**; and,
(ii) forwarding the intercepted packets towards the temporary address of mobile node **([0012])**, at least one of steps (i) and (ii) being authorized in dependence on the result of a comparison involving geographic information within a certificate **([0007])**.
Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to incorporate the packet forwarding steps taught by Sharma into the communication method disclosed by Stewart in order to provide a better way to accommodate device mobility within the network **([0011])**.

Regarding claim 11, Stewart discloses a method as claimed in claim 1, wherein the forwarding node is a fixed node **(col. 2 lines 43-56 Access points are located at airports, mass-transit stations therefore fixed nodes)**.

Regarding claim 12, Stewart discloses a method as claimed in claim 1, including an authentication step **(col. 1 lines 18-19)**.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

6. Claims 13-16 are rejected under 35 U.S.C. 102(a) as being anticipated by **Stewart et al. (US 6571221)**.

Regarding claim 13, Stewart discloses a network node for authorizing the transfer of data to a mobile node temporarily connected to a forwarding node, wherein the network node is configured, in response to receiving a digital certificate from the forwarding node, to read at least part of the digital certificate, the digital certificate including geographical information derived from a physical location, and wherein the network node is further configured to:

perform a comparison between the geographical information of the certificate and a further item of geographical information **(Abstract)**; and,

in dependence on the result of the comparison, make an authorization decision **(Fig. 4 items 224, 226 and 236)**.

Regarding claim 14, Stewart discloses a method of authorizing data transfer to or from a mobile node using a digital certificate, wherein the digital certificate includes a message body, a digital signature for verifying the content of the message body, the message body having geographical information derived from a physical location, the method including the steps of:

receiving the digital certificate from the mobile node **(Fig. 4 item 216 receiving certificate)**;

performing a comparison between the geographical information of the certificate and a further item of geographical information **(col. 11 lines 1-11)**; and,

making an authorization decision in dependence on the result of the comparison **(Fig. 4 items 224, 226 and 236)**.

Regarding claim 15, Stewart discloses a method as claimed in claim 14, wherein the mobile node is configured to form a temporary attachment to an attachment point of a main network, and wherein the digital certificate is received at a network node in the main network **(col. 2 lines 43-56 mobile user is temporarily access network through an access point; and Fig. 4 items 216)**.

Regarding claim 16, Stewart discloses a method as Claimed in claim 15, wherein the attachment point has a forwarding node associated therewith for forwarding messages to and/or from the mobile node, and wherein the forwarding node has a digital certificate associated therewith, which certificate include geographical information derived from the physical location of the forwarding node, the method including the steps of:

at the network node, receiving the digital certificate from the forwarding node **(Fig. 4 item 216 receiving certificate; col. 11 lines 1-11)**; and,

making an authorization decision in dependence on the geographical information of the certificate from the forwarding node **(Fig. 4 items 224, 226 and 236)**.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to KATHY WANG-HURST whose telephone number is (571) 270-5371. The examiner can normally be reached on Monday-Thursday, 7:30am-5pm, alternate Fridays, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nick Corsaro can be reached on (571) 272-7876. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/KATHY WANG-HURST/
Examiner, Art Unit 2617

/NICK CORSARO/
Supervisory Patent Examiner, Art Unit 2617